

353 Contamination in positive expiratory pressure masks (PEP)

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Aims: Evaluate the contamination of PEP masks in a Belgian CF centre.

Demographics: 108/210 patients own a PEP mask. Samples from 73 masks and valves were studied. 47/73 patients were younger than 18 years old.

Methods: Samples of valve and mask were put on a culture medium (MSA; McConkey) to detect contaminations including those possibly related to Cystic Fibrosis (CF) such as *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Achromobacter xylosoxidans*, *Stenotrophomonas maltophilia*, *Pseudomonas ralstonii*. The results of the analyses were compared to sputum cultures obtained over the last six years (2000–2005).

Results: 94% of the valves were contaminated. Pathogens in the valves were mainly CNS (Coagulase Negative *Staphylococcus aureus*). In 10 valves grew possibly known Cf pathogens: valves were infected by *Stenotrophomonas maltophilia* (n=4), *Pseudomonas aeruginosa* (n=3), *Staphylococcus aureus* (n=1), *Achromobacter xylosoxidans* (n=1) and *Pseudomonas ralstonii* (n=1).

Thirty masks were contaminated; 29 mainly with CNS; 1 mask was contaminated with *Stenotrophomonas maltophilia*.

Thirty-one of 73 patients were chronically colonised with *Pseudomonas aeruginosa*. Comparing PEP equipment and airway isolates from the preceding 6 years showed that in only 2 patients' similar bacteria were present. DNA finger-printing analysis is underway.

Conclusion: Little is known about contamination of PEP physiotherapy equipment and no specific studies were identified in the literature. Despite general beliefs about the potential source of contamination of PEP mask and valves, in only 2 patients similar sputum and valve isolates were recovered. Fingerprinting analysis of samples is pending.

354 Attitudes to exercise in adult CF patients

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Introduction: Although the benefits of exercise are well recognized in CF, many CF patients become less active following adolescence. To look at this further, we recorded adult CF patients' perceptions towards exercise in order to establish benefits and barriers in this population.

Methods: Consecutive adult CF patients attending routine clinics at our regional unit were approached during their physiotherapy assessment and asked to fill in a 43 point questionnaire, incorporating an exercise benefits and barriers scale, specifically designed to test their perception of the value of exercise and any inhibiting factors.

Results: 35 CF patients (mean age 20 years [range 16–40], 20 male) completed the survey. As regards benefits, questions which on average scored most highly (>75%) were those related to feelings of fitness and wellbeing, whilst those which scored the least (<50%) included those which related to the prevention of longer term disease (e.g. heart attacks). Conversely, questions regarding barriers to exercise on average showed less variability, with the highest (55%) being lack of time and the lowest (43%) related to lack of encouragement and knowledge.

Conclusions: The use of a specific semi-quantitative scoring tool has allowed us to gain insight into the reasons why some of our adult CF patients exercise and others do not. By employing this method with all our patients, we hope to improve their knowledge and acceptance of exercise, whilst overcoming some of the potential barriers to this useful form of physical therapy for CF. This will allow us to better target scarce physiotherapy resources in this patient group.

355 Playing the board game "Airway" with children increases knowledge about CF lung disease

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Introduction: Fifty percent of the pediatric Cystic Fibrosis (CF) population is non-adherent to their CF treatment. Inadequate knowledge of the disease and treatment are factors that influence adherence negatively. To increase knowledge about CF lung disease in children we developed the board game "Airway".

Aim: To increase the knowledge of CF lung disease in children. An increase of 10% of correct answers is considered clinically relevant.

Methods: We performed a randomized controlled study. "Airway" included information about CF, sputum, infection and treatment. "Airway" is played by a pediatric physiotherapist and one child. Inclusion criteria: proven CF, age 7–13 years. Children were randomized in two groups. Both groups were assessed with a written knowledge test (WKT). The WKT consisted of 16 multiple-choice questions about airways, CF and treatment. After two weeks the WKT was repeated. Only children in group II played "Airway" in between the two WKT's.

Results: In total 37 children participated. Patient characteristics for groups I (n=20) and II (n=17), respectively: boys n=10 and n=9, mean age 10 (range 8–13) and 10.5 (8–13) years. The percentage of correct answers increased by 5% for group I and by 16% for group II (p=0.03).

Conclusion: The board game "Airway" increases children's knowledge about CF lung disease significantly.

356 Utilization of an exercise 'Halfway-House' for CF outpatients

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Introduction: Physical activity and exercise therapy and training, are accepted as integral components of the overall CF care package. Such therapies can have an important impact on survival, physical functioning and quality of life. Despite this, many CF patients decrease exercise in late adolescence, often to a greater degree than non-CF peers. Since CF team support is important in maintaining exercise, we set up a supervised outpatient training facility in the hope that such a 'halfway house' would provide social support, direction and motivation to help adherence to a recommended exercise plan. These are individually tailored using assessment of the patient's physical and psychological variables. We have assessed patient utilization of this facility 3 months after its inception.

Methods: We looked at all CF patients referred for physical therapy, to assess those who participated and explore the reasons for refusal in the remainder.

Results: 22 patients were referred for enrolment: only 14 (64%) took up the offer. Of the 8 who refused, 4 were unable to travel regularly, 1 claimed they were already fit, and 3 gave no reason. Following enrolment, 4 (18%) gave up the program: 1 died, 1 had domestic problems, and 2 found traveling difficult. The remaining 10 participated beyond 3 months and found the facility beneficial.

Conclusions: We believe that offering regular supervised outpatient exercise training can increase adherence, shaping the patient's exercise behavior into a more active lifestyle and in turn helping their long-term prognosis. Contact between patient and the CF team using a "half way house" facility encourages this aspect of CF care. We plan to record program uptake, attendance, attrition and a range of outcome measures on a regular basis.